

WHAT IS CLAIMED IS:

1. A battery charger configured to provide temperature-regulated charging of a battery, comprising:  
a processing arrangement operable to:
  - (a) obtain a temperature data associated with the battery; and
  - (b) apply a charge to the battery, the charge being determined based on the temperature data of the battery wherein the battery is maintained at a predetermined threshold temperature.
2. The battery charger according to claim 1, further comprising a processing arrangement operable to:
  - (c) obtain a voltage data associated with the battery; and
  - (d) apply a charge to the battery, the charge being determined based on the voltage data of the battery.
3. The battery charger according to claim 1, wherein the charge is applied to the battery until charging of the battery is substantially completed.
4. The battery charger according to claim 1, further comprising the step of using a voltage of the battery to determine if charging of the battery is substantially complete.
5. The battery charger according to claim 1, further comprising the steps of:
  - (c) measuring a first voltage across a terminal of the battery;
  - (d) measuring a second voltage across the terminals of the battery after step (c);

(e) determining a difference between the first voltage and the second voltage;

and

(f) repeating steps (c)-(e) until charging of the battery is substantially complete.

6. The battery charger according to claim 1, further comprising at least one temperature sensor mounted on or in the battery, wherein the temperature sensor measures the temperature of the battery.

7. The battery charger according to claim 1, further comprising at least one temperature sensor, wherein the temperature sensor measures an ambient temperature.

8. The battery charger according to claim 1, wherein the charge applied to the battery allows a maximum charge intensity during charging of the battery.

9. The battery charger according to claim 1, wherein the temperature-regulated charging is controlled by a processing arrangement.

10. The battery charger according to claim 9, wherein the processing arrangement includes a microprocessor.

11. The battery charger according to claim 1, wherein the charge applied to the battery is based on one of voltage measurements and temperature measurements of the battery.

12. The battery charger according to claim 1, wherein the charge of the battery is further based on a change in the temperature of the battery.

13. The battery charger according to claim 1, wherein the battery comprises a nickel metal hydride battery, a nickel cadmium battery, a lead acid battery and a lithium ion battery.

14. The battery charger according to claim 1, further comprising the step of cooling the battery using a cooling arrangement.

15. A process for providing temperature-regulated charging of a battery, comprising the steps of:

- (a) obtaining a temperature data associated with the battery; and
- (b) applying a charge to the battery, the charge being determined based on the temperature data of the battery wherein the battery is maintained at a predetermined threshold temperature.

16. The process according to claim 15, further comprising the steps of:

- (c) obtaining a voltage data associated with the battery; and
- (d) applying a charge to the battery, the charge being determined based on the voltage data of the battery.

17. The process according to claim 15, wherein the charge is applied to the battery until charging of the battery is substantially completed.

18. The process according to claim 15, further comprising the step of using a voltage of the battery to determine if charging of the battery is substantially complete.

19. The process according to claim 15, further comprising the steps of:

- (c) measuring a first voltage across a terminal of the battery;

- (d) measuring a second voltage across the terminals of the battery after step (c);
- (e) determining a difference between the first voltage and the second voltage;
- and
- (f) repeating steps (c)-(e) until charging of the battery is substantially complete.

20. The process according to claim 15, further comprising at least one temperature sensor mounted on or in the battery, wherein the temperature sensor measures the temperature of the battery.

21. The process according to claim 15, further comprising at least one temperature sensor, wherein the temperature sensor measures an ambient temperature.

22. The process according to claim 15, wherein the charge applied to the battery allows a maximum charge intensity during charging of the battery.

23. The process according to claim 15, wherein the temperature-regulated charging is controlled by a processing arrangement.

24. The process according to claim 23, wherein the processing arrangement includes a microprocessor.

25. The process according to claim 15, wherein the charge applied to the battery is based on one of voltage measurements and temperature measurements of the battery.

26. The process according to claim 15, wherein the charge of the battery is further based on a change in the temperature of the battery.

27. The process according to claim 15, wherein the battery comprises a nickel metal hydride battery, a nickel cadmium battery, a lead acid battery and a lithium ion battery.

28. The process according to claim 15, further comprising the step of cooling the battery using a cooling arrangement.

29. A storage medium for providing temperature-regulated charging of a battery, comprising:

a software arrangement operable to:

(a) obtain a temperature data associated with the battery; and

(b) apply a charge to the battery, the charge being determined based on the temperature data of the battery wherein the battery is maintained at a predetermined threshold temperature.

30. The storage medium according to claim 29, further comprising a software arrangement operable to:

(c) obtain a voltage data associated with the battery; and

(d) apply a charge to the battery, the charge being determined based on the voltage data of the battery.

31. The storage medium according to claim 29, wherein the charge is applied to the battery until charging of the battery is substantially completed.

32. The storage medium according to claim 29, further comprising the step of using a voltage of the battery to determine if charging of the battery is substantially complete.

33. The storage medium according to claim 29, further comprising the steps of:

- (c) measuring a first voltage across a terminal of the battery;
- (d) measuring a second voltage across the terminals of the battery after step (c);
- (e) determining a difference between the first voltage and the second voltage;

and

- (f) repeating steps (c)-(e) until charging of the battery is substantially complete.

34. The storage medium according to claim 29, further comprising at least one temperature sensor mounted on or in the battery, wherein the temperature sensor measures the temperature of the battery.

35. The storage medium according to claim 29, further comprising at least one temperature sensor, wherein the temperature sensor measures an ambient temperature.

36. The storage medium according to claim 29, wherein the charge applied to the battery allows a maximum charge intensity during charging of the battery.

37. The storage medium according to claim 29, wherein the temperature-regulated charging is controlled by a processing arrangement.

38. The storage medium according to claim 37, wherein the processing arrangement includes a microprocessor.

39. The storage medium according to claim 29, wherein the charge applied to the battery is based on one of voltage measurements and temperature measurements of the battery.

40. The storage medium according to claim 29, wherein the charge of the battery is further based on a change in the temperature of the battery.

41. The storage medium according to claim 29, wherein the battery comprises a nickel metal hydride battery, a nickel cadmium battery, a lead acid battery and a lithium ion battery.

42. The storage medium according to claim 29, further comprising the step of cooling the battery using a cooling arrangement.